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10/816,646	04/02/2004	Marc Moessinger	860-011746-US(PAR)/200308	1044

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425 POST ROAD  
FAIRFIELD, CT 06824

EXAMINER

SIDDIQUI, SAQIB JAVAID

ART UNIT	PAPER NUMBER
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2138

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/816,646

Applicant(s)

MOESSINGER ET AL.

Examiner

Saqib J. Siddiqui

Art Unit

2138

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☒ Claim(s) 15, 16 and 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 08/16/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in Application No. 10/816646, filed on August 16, 2004.

### ***Oath/Declaration***

The Oath filed August 16, 2004 complies with all the requirements set forth in MPEP 602 and therefore is accepted.

### ***Drawings***

The filed drawings are accepted.

### ***Specification***

The disclosure is accepted.

### ***Claim Objections***

Claims 26 is objected to because of the following informalities:

As per claim 26:

This claim refers to "over the time" (line 9), whereas it should read "over time"  
Applicant should omit "the."

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 17-24, are rejected under 35 U.S.C. 112, second paragraph.

As per claims 17, 19, 21 & 23:

These claims are rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant teaches a testing system adapted for testing "at least one of" a first and second unit, in these claims. However, in applicant further teaches the test system to test both units, which makes the claims indefinite. For the purpose of compact prosecution it is presumed that the applicant intended to refer to test one unit.

As per claims 18, 20, 22, & 24:

These claims are rejected by virtue of their dependency.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,7, & 15 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Magoshi US Pat no. US 5,886,901 A.

As per claim 1:

Magoshi teaches a coupling unit adapted to be coupled between a first and a second unit to be tested (column 6, lines 1-40), said coupling unit comprising a first signal path that is adapted to provide a signal connection (column 6, lines 2-50) between at least one terminal of the first unit to be tested and at least one terminal of the second unit to be tested (Figure 2); with said first signal path comprising a signal conditioning facility adapted for receiving a first signal from the first unit to be tested (columns 5-6, lines 45-30), for conditioning said first signal in accordance with predefined parameters (Figure 2), and for providing the conditioned first signal to the second unit to be tested (Figure 2 # 220).

As per claim 2:

Magoshi teaches the coupling unit as rejected in claim 1 above, comprising at least one of the features: said first signal path is adapted for substantially preserving the first signal's information content (Figure 2 # 220); the transmission properties of the first signal path are determined by said predefined parameters; said first signal is implemented as a single-ended signal.

As per claim 3:

Magoshi teaches the coupling unit as rejected in claim 1 above, wherein said signal conditioning facility comprises a comparator unit adapted for comparing said first signal, or a signal derived therefrom, with a predefined threshold level, whereby said threshold level is set in accordance with said predefined parameters (column 1, lines 15-27).

As per claim 4:

Magoshi teaches the coupling unit as rejected in claim 1, wherein said signal conditioning facility comprises a delay unit (Figure 5 # 500), preferably a variable delay unit, adapted to provide a delay for a signal traveling on the first signal path.

As per claim 5:

Magoshi teaches the coupling unit as rejected claim 4, comprising at least one of the features: the coupling unit further comprises a control unit adapted for controlling the delay of said delay unit (Figure 5 # 500); the coupling unit further comprises a control unit adapted for controlling the delay of said delay unit by applying a control signal for modifying the delay over the time; the delay induced by said delay unit is controlled in order to vary at least one of a set-up time and a hold time of a digital data signal, wherein the set-up time represents a time between a start of a valid data signal and a start of a valid clock signal, and the hold time represents a time between the start of the valid clock signal and an end of the valid data signal.

As per claim 6:

Magoshi teaches the coupling unit as rejected in claim 1, wherein skew is imposed on the first signal by setting the delay of the first signal path according to a skew signal (column 6, lines 20-60), with said skew being imposed in accordance with said predefined parameters.

As per claim 8:

Magoshi teaches the coupling unit as rejected in claim 1, wherein said first signal path is adapted to provide a single-ended signal connection (Figure 5).

As per claim 11:

Magoshi teaches the coupling unit as rejected in claim 1, wherein said signal conditioning facility comprises a driver adapted for transforming said first signal (Figure 6, "130"), or a signal derived therefrom, into an output signal with at least one output level (Figure 6, "DATA OTUPUT"), whereby said at least one output level is set in accordance with said predefined parameters.

As per claim 12:

Magoshi teaches the coupling unit as rejected in claim 1 above, comprising at least one of the features: the second unit to be tested is substantially complementary in function to the first unit to be tested; the first and second units to be tested are comprised by either one device or each by a different device (column 6, lines 20-45); the coupling unit is a loop-back unit; at least one of the units to be tested comprises a physical interface, in particular a serial interface such as PCI Express, HyperTransport, Serial ATA, Rapid IO, FibreChannel, Embedded SerDes, XAUI, with at least one of the terminals of the units to be tested being part of said physical interface.

As per claim 13:

Magoshi teaches the coupling unit as rejected in claim 1, comprising first switching facilities adapted for switching between said first signal path (Figure 2) and a wire loop adapted for bypassing the signal conditioning facility of the first signal path (column 4, lines 25-60).

As per claim 14:

Magoshi teaches the coupling unit as rejected in claim 1, comprising second switching facilities adapted for switching the signal path in a way that at least one terminal of one of the units to be tested is connected with an external resource (Figure 2 # 260), in particular with an external channel.

As per claim 17:

Magoshi teaches a testing system adapted for testing at least one of a first and a second unit to be tested (Figure 2), comprising at least one coupling unit of claim 1 that is coupled between the first and the second unit to be tested (column 6, lines 5-45).

As per claim 18:

Magoshi teaches the testing system as rejected in claim 17, further comprising a signal source (Figure 2 # 260), in particular a pattern generator, adapted to provide the stimulus signal to the first unit to be tested (figure 2 # 206).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.



4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magoshi US Pat no. 5,886,901.

As per claims 7, 9, 10, & 16:

Magoshi substantially teaches the coupling unit as rejected in claim 1.

Magoshi does not explicitly teach the use of jitter, differential signal, and deriving a common mode from the differential signal. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use jitter, differential signal, and deriving a common mode from the differential signal, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

As per claim 15:

Magoshi substantially teaches the coupling unit as rejected in claim 1, comprising a second signal path that is adapted to provide a signal connection between the at least one terminal of the second unit to be tested and the at least one terminal of the first unit to be tested (Figure 2, column 6, lines 2-50); with said second signal path comprising a signal conditioning facility adapted for receiving a second signal from the second unit to be tested (Figure 7 # 720), for conditioning said second signal in accordance with predefined parameters.

Magoshi does not explicitly teach the use of a second conditional facility and reversing the signal towards the first unit. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a second conditional facility, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Further it would have been obvious to one of ordinary skill in the art at the time the invention was made to send the signal back to the first unit, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

As per claims 19-20:

Magoshi substantially teaches the testing system as rejected in claim 17.

Magoshi does not explicitly teach the degradation of the signal. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to degrade the signal, since it has been held that where the general conditions of

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a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

As per claims 21-24:

Claims 21-24 are directed to a method of the test system of Claims 1-20.

Magoshi teaches, the test system as set forth in Claims 1-20. Therefore, Magoshi also teaches, the method as set forth in Claims 21-24.

As per claims 25-26:

Claims 25-26 are directed to the coupling unit of the test system of Claims 1-20.

Magoshi teaches, the test system as set forth in Claims 1-20. Therefore, Magoshi also teaches, the coupling as set forth in Claims 25-26.

### ***Related Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Additional pertinent prior arts, US PG-Pub no. 20030145268 A1, US PG-Pub no. 20030154434 A1, and US Pat no. 6333625 B1 mention the same test system using a coupling unit to communicate between two units are included herein for Applicant's review.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saqib J. Siddiqui whose telephone number is (571) 272-6553. The examiner can normally be reached on 8:00 to 4:30.

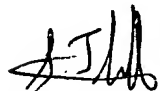
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Saqib Siddiqui  
Art Unit 2138  
04/10/2006



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